MLC 226 IP AAP

Enhanced MediaLink® Controller with IP Link® and AAP Opening

Key Features

- Bidirectional RS-232 port for universal display control
- IP Link® Ethernet monitoring and control
- Configurable buttons
- Inactivity timer for display shutoff
- Opening for up to four single space AAP - Architectural Adapter Plates

Model	Version Description	Part #	Your Price	MSRP
MLC 226 IP AAP	Black Faceplate	60-600-12	$770.00	$1,540.00
MLC 226 IP AAP	White Faceplate	60-600-13	$770.00	$1,540.00
MLC 226 IP AAP	RAL9010 White Faceplate	60-600-15	$770.00	$1,540.00

DESCRIPTION

The Extron MLC 226 IP AAP MediaLink Controller is an enhanced control panel for controlling A/V equipment in any classroom or conference room. It standardizes the control interface for all systems, making display systems simple to use. Standardization also makes setup and maintenance easier to support. The MLC 226 IP AAP also includes IP Link® with GlobalViewer®, a free Web-based A/V resource management and remote control software application.

The MLC 226 IP AAP MediaLink Controller offers several enhanced control capabilities including six input selection buttons, two bidirectional serial ports for display and switcher control, three unidirectional serial/IR control ports, six relays, and support for optional IRCM - Infrared Control Modules to control VCRs, DVDs, and other IR controllable equipment.

The flexible MLC 226 IP AAP acts as an extended remote control panel. It is not a switcher; instead, as a controller, it tells the display when to switch between its various inputs. Presenters with little or no training can walk into any multimedia classroom and operate the A/V system. The MLC 226 IP AAP includes universal display control for a display's power, input switching, and volume control. The MLC 226 IP AAP features backlit buttons that can be custom-labeled for easy identification. Because the buttons illuminate, they are helpful for presenters in low-light environments. The input selection and room/function buttons on the MLC 226 IP AAP can be utilized for source selection and relays, as well as sending various RS-232 or IR commands.

Especially vital for high traffic areas, the MLC 226 IP AAP fits into a five-gang wall plate and includes an opening to accommodate up to four single space AAP - Architectural Adapter Plates. Blank AAPs are not included. The opening allows for integration with many of Extron's AAPs, including signal pass-through connections and IR control modules for controlling external source equipment such as DVD players and VCRs. The MLC 226 IP AAP has the same look and functionality regardless of where it is mounted: a lectern, desk, wall, rack, or wall box.

Easy System Configuration using Global Configurator Software

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The MLC 226 IP AAP is designed to be configured with Extron's Global Configurator. With Global Configurator, the MLC 226 IP AAP can be configured with a wide selection of commonly used display control drivers. These RS-232 or IR drivers are essential for the MLC 226 IP AAP to effectively communicate with a display device. They enable the MLC 226 IP AAP to control basic display functions such as power, input selection, and volume adjustment. Users can create their own drivers or go to the Extron Web site to download RS-232 or IR drivers compatible with the latest and most popular display devices. Global Configurator also adds support for GlobalViewer, a free Web-based A/V resource management and remote control software application specifically designed to work with products that include IP Link technology.

The MLC 226 IP AAP is designed to work with almost every Extron switcher, including the MediaLink Switchers, which are specifically designed to complement MediaLink Controllers. MediaLink Switchers are available to accommodate a variety of video, RGBHV, and audio signals while providing unique features that expand A/V system capabilities. The MLC 226 IP AAP can also work as a stand-alone device to control a display without the aid of a switcher.

IP Link® Ethernet Control

The MLC 226 IP AAP is equipped with Extron's IP Link, an IP integration technology specifically engineered to meet the needs of professional A/V environments — from small K-12 classrooms to large universities and businesses. GlobalViewer®, a free Web-based A/V resource management and remote control software application, is specifically designed to work with products that include IP Link technology. It facilitates key A/V resource management functions including:

- **Proactive maintenance** — GlobalViewer can store and display information about connected devices like serial numbers, owner identification, maintenance history, and installed firmware versions. This centralized data can be collected and used to reduce maintenance costs and guide future purchasing decisions. For instance, a projector can be polled routinely to track lamp usage and total life time. When lamp usage reaches a predetermined number of hours, the MLC 226 IP AAP can send a report via e-mail.
- **Event scheduling** — GlobalViewer uses the real-time clock and calendar in IP Link-enabled devices to maximum value. User-defined tasks are easy to configure and schedule with GlobalViewer and don't require high-level programming skills. For instance, an administrator may want to turn off all projectors every Friday at close of business. The administrator can schedule the system to turn off all projectors at a specified time, and raise all projection screens that were left down.
- **Remote technical support** — Technicians can troubleshoot systems remotely because GlobalViewer provides the real-time status of connected devices. Information such as connection status, power state, and current input selection is displayed in a central location. For many connected devices, technicians can toggle power on or off, switch sources, control volume, and more without leaving their office. Many common problems can be resolved without a trip to where the equipment is located.
- **Theft alerts** — IP Link-enabled products are always on and routinely poll their attached devices for status information. If any serially controlled device, such as a projector or plasma display, is physically disconnected from the network, the MLC 226 IP AAP monitoring its status will know immediately. In such an event, it can send an e-mail message notifying security personnel of the possible theft. For fast action, e-mails can be sent to multiple addresses including cell phones and wireless PDAs.

Data Logger

Data Logger is a free Microsoft® Excel-based spreadsheet application that allows administrators to automatically gather up-to-date lamp hour and usage statistics for multiple rooms of A/V equipment. It provides a simple, convenient way to retrieve A/V system usage statistics into a single document for data analysis, collecting critical system information such as frequency of usage for each front panel input and current lamp hours of connected projectors.

Features

- **Bidirectional RS-232 port for universal display control** — The MLC 226 IP AAP has a dedicated port for communicating with virtually any projector or flat panel display via IR or RS-232. Control drivers can be downloaded or created using the intuitive software.

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- **IP Link® Ethernet monitoring and control** — An IP integration technology developed by Extron specifically engineered to meet the needs of professional A/V environments that enables the MLC 226 IP AAP to be controlled and proactively monitored over a LAN, WAN, or the Internet.
- **Discrete ON and OFF display power controls** — Simplify system operations and eliminate the need for an external display remote.
- **Two Digital I/O ports** — Port 1 is selectable as a digital input or digital output and can interface with a variety of devices, such as sensors, switches, LEDs and relays. Port 2 is selectable as a digital input or power sense input. The power sense input can verify the On/Off status of a device.
- **Three IR/serial ports for one-way control of external devices**
- **RS-232 port for MediaLink Switcher support** — For controlling an optional Extron MediaLink Switcher.
- **Six internal relays for control of room functions** — Enables control of lighting, screen settings, and other device functions. The relays may be controlled through the front panel, SCP 226 AAP Secondary Control Panel, IR 402 remote, or RS-232.
- **IR learning for customized control of external sources when used with optional IRCM - Infrared Control Modules**
- **Supports IP Intercom** — The optional IPI 101 AAP and IPI 104 AAP IP Intercom Modules provide two-way, half-duplex communications over an IP network between a classroom and remote location such as a help desk.
- **Configurable buttons** — Can be set up to trigger a variety of functions such as selecting an input, sending a serial or IR command, or controlling a relay.
- **Macro capability** — Any button can be configured to execute multiple actions through the serial and IR control ports. For instance, the touch of a single button could trigger commands to turn on the display, select the display's RGB input, and select an input on the MLS - MediaLink Switcher.
- **Tri-color, backlit buttons** — Provide easy operation for presenters in low-light environments.
- **Inactivity timer for display shutoff** — Preserves energy, prevents plasma burn-in, and extends projector lamp life.
- **Front panel security lockout** — When the security lockout mode is engaged, the MLC 226 IP AAP's front panel becomes inoperable unless a user-defined PIN number is entered. No functions of the controller or IR remote can be activated.
- **Volume control with volume indication for display or MediaLink Switcher** — Allows for convenient, centralized control without additional remotes. The five LEDs provide clear indication of the current audio setting.
- **Integral high performance Web server** — Features a built-in Web server with memory available for storing device drivers, GlobalViewer, and custom user Web pages.
- **Removable button caps** — Make it easy to label each button to clearly indicate its function; labels can be quickly changed and don't require programming or engraving.
- **Section 508 Compliant** — Meets or exceeds accessibility standards for Electronic Information Technology. For more information about Extron's Commitment to Accessibility please see our Accessibility Page.

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- **Optional SCP 226 Secondary Control Panel, part # 60-671-xx** — Duplicates the MLC 226 IP AAP's front panel buttons and offers a second access point within a room.
- **Optional IR 402 Handheld IR Remote Control, part #70-207-01, offers remote control of the MLC 226 IP APP and connected external sources**
- **Opening for up to four single space AAP - Architectural Adapter Plates** — The MLC 226 IP AAP fits into a five-gang wall plate and includes an opening to accommodate up to four single space AAP - Architectural Adapter Plates. Blank AAPs are not included. The opening allows for integration with many Extron AAPs, including signal pass-through connections.
- **Available in black, white, or RAL9010 white**
- **Optional mounting kits enable wall-, lectern-, or table-mounting**
- **Includes MR 500 five-gang mud ring**
- **External universal power supply included, replacement part # 70-775-01** — Provides worldwide power compatibility.

INCLUDED ACCESSORIES

• MR 500	Five-Gang Mud Ring - Black	70-519
• MR 500	Five-Gang Mud Ring - White	70-519
• EPS 1210 B	Extron EPS 1210 B Power Supply - 12 VDC, 2A, wire	70-055
• Backlit Button Labels	Text Button Labels	33-954
• Backlit Button Labels	Icon Button Labels	33-955

OPTIONAL ACCESSORIES

• NETXC M-M	Male to Male RJ-45 Network Crossover Cable
• CFG Cable	9-pin D Female to 2.5 mm TRS Configuration Cable
• Universal Projector Control Cables	Female 9-pin D Connector to Unterminated - Captive Scre Ready
• IR Emitter and Shield Kits	IR Emitter Kits
• IRCM-DV+	Dual-Function DVD and VCR IR Control Module
• IPI 101 AAP	One-Button IP Intercom® Station for Use with MLC 226 I
• IPI 104 AAP	Four-Button IP Intercom® Station for Use with MLC 226 I
• MLS 406SA	Six Input MediaLink® Switcher with Stereo Audio Amplifie
• MLS 506SA	Six Input MediaLink® Switcher with Stereo Audio Amplifie
• CM-9BLB	Nine-Button, Four Space Control Module AAP - Architectu Adapter Plate
• SCP 226	Secondary Control Panel for MLC 226 IP and System 5 IP
• IR 402	Handheld IR Remote Control for System 5 IP, MLC 104 IP Plus, and MLC 226 IP
• MLA-VC10	Volume Control Module
• MLM 226 L	Replacement Lectern Mounting Kit for the MLC 226 IP
• UCM RAAP	Universal Controller Mounting Rack Kit
• SMB 100 Series	Surface Mount Boxes
• MLM-WB+	Lockable Metal Wall Box with Flip-Down 4U Rack Space
• ACM-Level	Audio Level Control Module
• ACM-Tone	Audio Tone Control Module
• CM-3BLB	Three-Button, Double Space Control Module AAP - Architectural Adapter Plate
• EWB Series	External Wall Boxes

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• IPI 101 AAP	One-Button IP Intercom® Station for Use with MLC 226 I
• IPI 104 AAP	Four-Button IP Intercom® Station for Use with MLC 226 I
• IRCM-DVD+	Enhanced DVD IR Control Module
• IRCM-Tape	Tape Deck IR Control Module
• MediaLink® International Faceplate Labels	Projector, Plasma, and Volume Labels
• RCM-SC	Screen Relay Control Module
• RCM-SCLT	Screen and Lighting Relay Control Module
• SCP 226 AAP	Secondary Control Panel with AAP Opening for MLC 226 I and System 5 IP

SPECIFICATIONS

MLC 226 Series

IP Intercom

Connection type (IPI–MLC)	RJ-45 jack for CAT 5, CAT 5e, or CAT 6 cable
Audio	
Frequency response	20 Hz to 3.3 kHz, ±1 dB
Audio processing	
Audio format	PCM, µ-law companded
Sampling rate	8 kHz
Sample size	16 bit, µ-law companded to 8 bit
Audio latency	Software: 30 ms through 160 ms Network: <150 ms, typical
Audio output	
Number/signal type	1 mono (for use with an optional IP Intercom)
Line level output	-10 dBV (316 mVrms), unbalanced (via 3.5 mm captive screw connector, 2 pole)
Communication	
Transport bandwidth for IPI control and audio, half duplex	80 kbps (0.08% of 100Base-T)
Ethernet protocol	TCP/IP (control), UDP (audio)

Control — host ports

Serial host port	2 bidirectional RS-232: 1 rear panel 9-pin female D connector (shared with digital input), 1 front panel 2.5 mm mini stereo jack
Baud rate and protocol	38400, 8 data bits, 1 stop bit, no parity
Serial control pin configurations	9-pin female D connector: 2 = TX, 3 = RX, 5 = GND Mini stereo jack: tip = TX, ring = RX, sleeve = GND
Ethernet host port	1 RJ-45 female
Ethernet data rate (for network communication)	10/100Base-T, half/full duplex with autodetect
Ethernet protocol	ARP, DHCP, ICMP (ping), TCP/IP, Telnet, HTTP, SMTP
Ethernet default settings	Link speed and duplex level = autodetected IP address = 192.168.254.254 Subnet mask = 255.255.0.0 Default gateway = 0.0.0.0 DHCP = off
Web server	Up to 200 simultaneous sessions 7.25 MB nonvolatile user memory
Secondary control panel (SCP)	(1) 3.5 mm 5-pole direct insertion captive screw connector (shared with

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	control module and IR Link port)
IR remote control	IR 402 (optional) Front panel: 30' maximum, 40 degrees off axis Rear panel: 38 kHz, hardwired, modulated
Program control	Extron's configuration program for Windows® Extron's Simple Instruction Set (SIS™) Microsoft® Internet Explorer, Telnet
IR learning frequencies	30 kHz to 62 kHz
IR learning distance	2" (5.1 cm) to 12" (30.5 cm) from the front panel
Control — relay	
Number/type	6 momentary or latching (configurable via software)
Connectors	(3) 3.5 mm captive screw connectors, 3 pole
Connector configuration	Groups A, B, C; each with 1 common and 2 normally open relays (default)
Contact rating	24 V, 1 A
Control — serial ports	
Display control port	(1) 3.5 mm direct insertion captive screw connector, 3 pole, programmable for bidirectional RS-232 control (±5 V) or TTL level (0 to 5 V) infrared control up to 1 MHz
Switcher control port	(1) 3.5 mm direct insertion captive screw connector, 3 pole, for bidirectional RS-232 control (±5 V)
Baud rate and protocol (RS-232)	115200 to 300 baud (9600 baud = default); 8 (default) or 7 data bits; 1 (default) or 2 stop bits; no parity (default), or even or odd parity
Control — IR/serial ports	
IR/serial control ports	(3) 3.5 mm direct insertion captive screw connectors, 2 pole Programmable**:** unidirectional RS-232 (±5 V) control, or TTL level (0 to 5 V) infrared control up to 1 MHz
Baud rate and protocol	115200 to 300 baud (9600 baud = default) ; 8 (default) or 7 data bits; 1 (default) or 2 stop bits; no parity (default), or even or odd parity
Digital I/O control	
Number/type	1 digital input/output (configurable), 1 digital input
Connector	1 rear panel 9-pin female D connector (shared with the serial host port) (1) 3.5 mm direct insertion captive screw connector (shared with power sense port)
Pin configuration	9-pin female D connector: 1 = digital input, 5 = GND; power sense = digital in, GND = GND
Digital inputs	
Input voltage range	0-12 VDC
Input impedance	28k ohms
Programmable pullup	2k ohms to +5 VDC

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Threshold low to high	>2.8 VDC
Threshold high to low	<2.0VDC
Digital output	250 mA sink from 24 VDC, maximum

General

External power supply	100 VAC to 240 VAC, 50/60 Hz, external; to 12 VDC, 1 A, regulated
Power input requirements	
MLC 226 IP DV+	12 VDC, 0.515 A (includes MLC 226 IP and IRCM-DV+)
All other models	12 VDC, 0.495 A (0.515 A with 1 IRCM-DV+ connected)

NOTE *An MLC 226 Series controller must be powered by its own power supply. It cannot be powered by an MLS switcher.*

Temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing
Cooling	Convection, unvented
Rack mount	
MLC 226 IP DV+	No, but wall- and furniture-mountable
All other models	Yes, with optional rack mounting kits, and also wall- and furniture-mountable with optional mounting kits
Enclosure type	
MLC 226 IP controller only	No faceplate, metal rear enclosure
MLC 226 IP, MLC 226 IP DV+	High-impact plastic faceplate, metal rear enclosure
MLC 226 IP with RAL9010 white faceplate, MLC 226 IP AAP, MLC 226 IP L	Metal faceplate, metal rear enclosure
Enclosure dimensions	
MLC 226 faceplate	4.5" H x 6.4" W x 0.1" D (11.4 cm H x 16.3 cm W x 0.3 cm D) (3 gang)
MLC 226 AAP, MLC 226 IP DV+ faceplates	4.5" H x 10.0" W x 0.1" D (11.4 cm H x 25.4 cm W x 0.3 cm D) (5 gang)
MLC 226 L faceplate	3.15" H x 6.5" W x 0.1" D (8.0 cm H x 16.5 cm W x 0.3 cm D)
Device	
MLC 226 IP DV+	2.75" H x 5.3" W x 2.0" D (7.0 cm H x 13.5 cm W x 5.9 cm D) and 2.7" H x 2.6" W x 0.9" D (6.9 cm H x 6.6 cm W x 2.3 cm D) (Depth excludes knob and buttons. Fits some 5 gang boxes. Allow at least 2.1" (5.3 cm) depth in the wall or furniture.)

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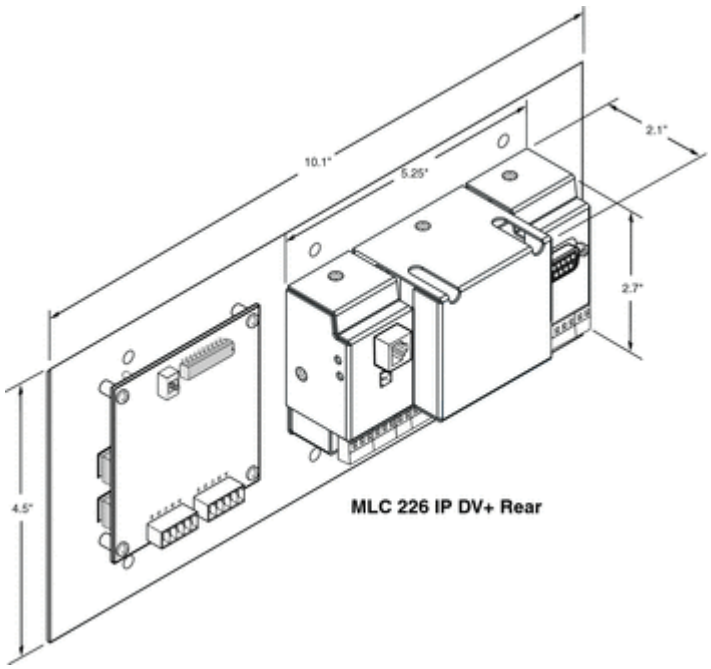

All other models	2.75" H x 5.3" W x 2.0" D (7.0 cm H x 13.5 cm W x 5.9 cm D) (Depth excludes knob and buttons. Fits some 3 gang boxes)

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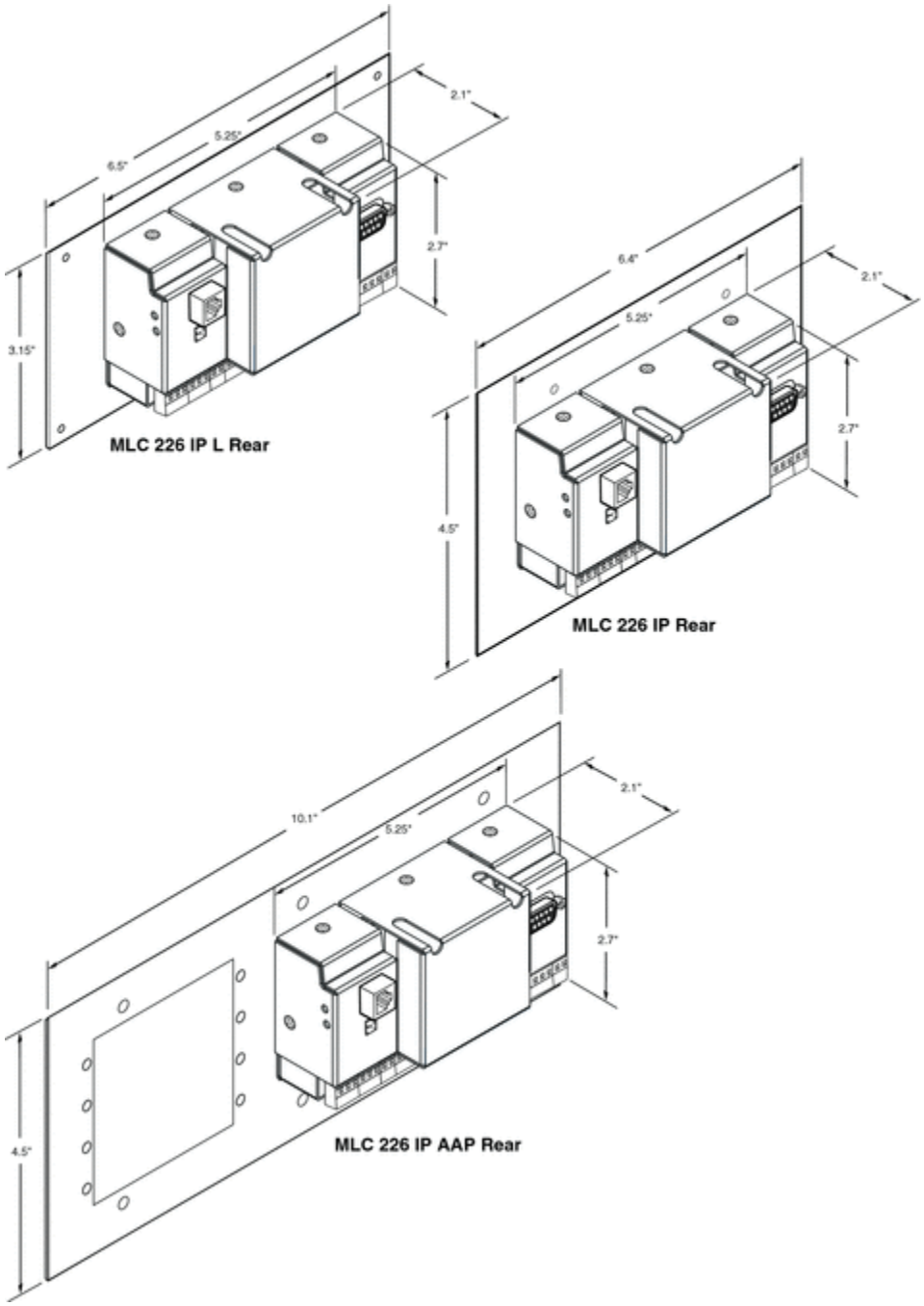

Product weight	
MLC 226 IP DV+	2.1 lbs (1.0 kg)
All other models	1.9 lbs (0.9 kg)
Shipping weight	6 lbs (3 kg)
Vibration	ISTA 1A in carton (International Safe Transit Association)
Regulatory compliance	
Safety	CE, C-tick, CUL, UL
EMI/EMC	CE, C-tick, FCC Class A, VCCI, ICES
Accessibility	Complies with the appropriate requirements of Section 508 of the Rehabilitation Act (29U.S.C.794d).
MTBF	30,000 hours

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Warranty	3 years parts and labor

NOTE *All nominal levels are at ±10%.*

NOTE *Specifications are subject to change without notice.*

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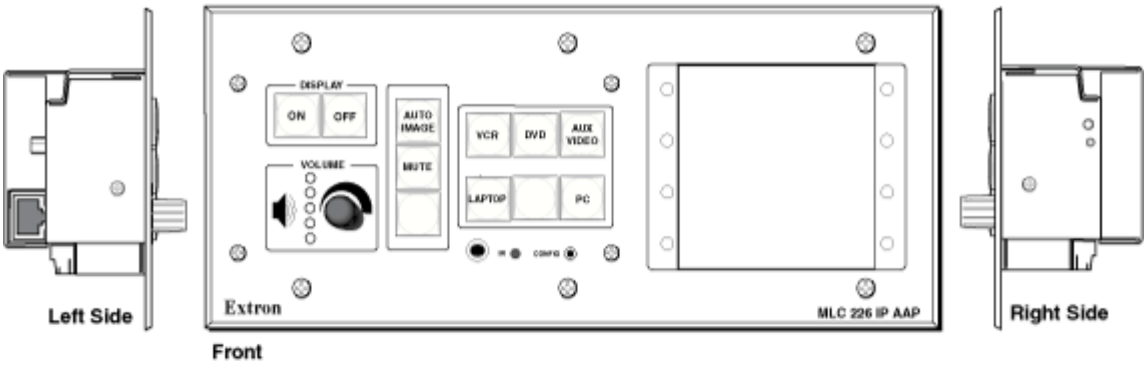
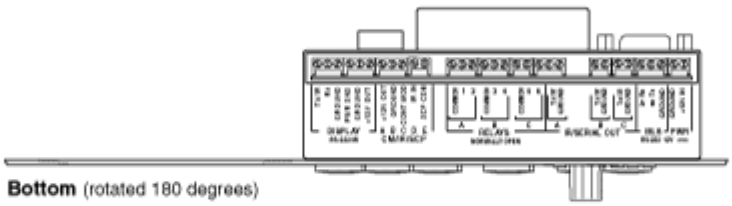
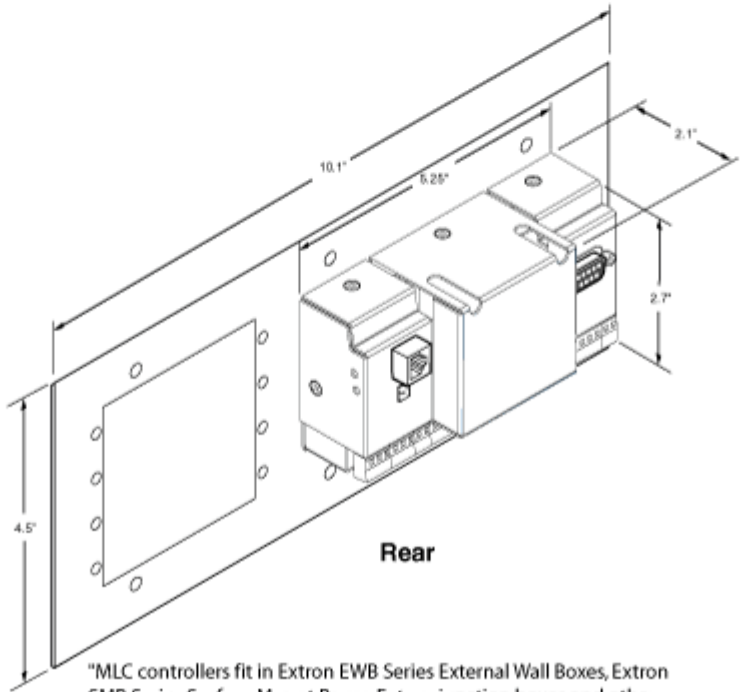
PANEL DRAWING

MLC 226 IP AAP





Bottom (rotated 180 degrees)



Rear

"MLC controllers fit in Extron EWB Series External Wall Boxes, Extron SMB Series Surface Mount Boxes, Extron junction boxes and other brands of junction boxes. Before wiring and mounting an MLC in a non-Extron junction box, check for adequate fit and cable clearance."

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